



#15/A

SEQUENCE LISTING

<110> Mitchell, Lloyd G.
Garcia-Blanco, Mariano A.
Puttaraju, Madaiah
Mansfield, Gary S.

<120> METHODS AND COMPOSITIONS FOR USE IN
SPLICEOSOME MEDIATED RNA TRANS-SPLICING

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<140> 09/756,096

<141> 2001-01-08

<150> 09/158,863

<151> 1998-09-23

<150> 09/133,717

<151> 1998-08-13

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<151> 1998-05-28

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<151> 1996-12-13

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 <210> 26
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 <210> 27
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 <400> 27
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 Escherichia coli lacZ gene

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 <210> 30

<211> 38
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide primer complimentary to the
 Escherichia coli lacZ gene

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 <210> 31
 <211> 38
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide primer complimentary to the
 Escherichia coli lacZ gene

 <400> 31
 ctgaaagctt gttaacttat tatttttgac accagacc 38

 <210> 32
 <211> 47
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide primer complimentary to the
 Escherichia coli lacZ gene

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 <210> 33
 <211> 37
 <212> DNA
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 <220>
 <223> Oligonucleotide primer complimentary to the beta
 HCG6 gene (accession #X00266)

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 <210> 34
 <211> 38
 <212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide primer complimentary to the beta
HCG6 gene (accession #X00266)

<400> 34

ctgactgcag ggtaaccgga caaggacact gcttcacc

38

<210> 35

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide primer complimentary to the beta
HCG6 gene (accession #X00266)

<400> 35

gcatggtaac cctgcagggg ctgctgctgt tgctg

35

<210> 36

<211> 37

<212> DNA

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<220>

<223> Oligonucleotide primer complimentary to the beta
HCG6 gene (accession #X00266)

<400> 36

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37

<210> 37

<211> 22

<212> DNA

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<220>

<223> Oligonucleotide primer complimentary to the
Escherichia coli lacZ gene

<400> 37

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<210> 38

<211> 21

<212> DNA

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<220>
 <223> Oligonucleotide primer complimentary to the
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<210> 39
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<220>
 <223> Oligonucleotide primer complimentary to the
 Escherichia coli lacZ gene

<400> 39
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<210> 41
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 <212> DNA
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<400> 41
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<210> 42
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 <212> DNA
 <213> Homo sapiens

<400> 42
 acctctgcag acttcacttc taatgatgat 30

<210> 43
 <211> 51
 <212> DNA
 <213> Homo sapien

<400> 43
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<210> 44
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 <400> 44
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 <210> 45
 <211> 35
 <212> DNA
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 <400> 45
 ctgacctgcg gccgctacag tggtgaatgt ggtgc 35

 <210> 46
 <211> 35
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 <400> 46
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 <210> 47
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 <400> 47
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 <400> 48
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 <210> 50

<211> 21
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 <400> 50
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 <210> 51
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 <400> 51
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 <210> 52
 <211> 21
 <212> DNA
 <213> Homo sapien

 <400> 52
 aactagaagg cacagtcgag g 21

 <210> 53
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> trans-spliced product containing Human chorionic
 gonadotropin gene 6 sequences and Corynebacterium
 diptheriae diptheria toxin A sequence

 <400> 53
 gagatgttcc agggcgtgat gatg 24

 <210> 54
 <211> 127
 <212> RNA
 <213> Artificial Sequence

 <220>
 <223> PTM intramolecular base paired stem

 <221> misc_feature
 <222> (57)...(70)
 <223> Loop comprising a combination of 14 nucleotides
 according to specification

 <400> 54

gcuagccugg gacaaggaca cugcuucacc cgguuaguag accacagccc ugagccnnnn 60
 nnnnnnnnnn aucguuaacu aaauaacuac uaacugggug aacuucuguu uuuuucucga 120
 gcugcag 127

<210> 55
 <211> 127
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> PTM intramolecular base paired stem

<221> misc_feature
 <222> (57)...(70)
 <223> Loop comprising a combination of 14 nucleotides
 according to specification

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 nnnnnnnnnn aucguuaacu aaauaacuac uaacugggug aacuucugua uuauucucga 120
 gcugcag 127

<210> 56
 <211> 127
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> PTM intramolecular base paired stem

<221> misc_feature
 <222> (57)...(70)
 <223> Loop comprising a combination of 14 nucleotides
 according to specification

<400> 56
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 nnnnnnnnnn aucguuaacu aaauaacuac uaacugggug aaguucuguc cuugucucga 120
 gcugcag 127

<210> 57
 <211> 132
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> trans-spliced product containing Human chorionic
 gonadotropin gene 6 sequences and Corynebacterium
 diphtheriae diphtheria toxin A sequences

<400> 57
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tccattcaaa aa 132

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<211> 18
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<213> Artificial Sequence

<220>
<223> Artificial Sequence derived from Escherichia coli
lacZ gene

<400> 58
gaattcggta ccatgggg 18

<210> 59
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence derived from Escherichia coli
lacZ gene

<400> 59
cgtttacagg taagaggatc ctccggaggg ccc 33

<210> 60
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence derived from Escherichia coli
lacZ gene

<400> 60
tggtgtcaaa aataataagt taacaagctt 30

<210> 61
<211> 25
<212> DNA
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<220>
<223> trans-spliced product containing Escherichia coli
lacZ gene sequences and Human chorionic
gonadotropin gene 6 exon 2 sequences

<400> 61
cagcagcccc tgtaaacggg gatac

25

<210> 62
<211> 286
<212> DNA
<213> Artificial Sequence

<220>
<223> trans-spliced product containing Escherichia coli
lacZ gene sequences

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agggcggcgt cgtctaataa tgggactggg tggatcagtc gctgattaaa tatgatgaaa 180
acgggcaacc cgtggtcggc ttacggcggt gattttggcg atacgccgaa cgatcgccag 240
ttctgtatga acggtctggt ctttgccgac cgcacgccgc atccag 286

<210> 63
<211> 196
<212> DNA
<213> Artificial Sequence

<220>
<223> trans-spliced product containing Escherichia coli
lacZ gene sequences

<400> 63
ggctttcgct acctggagag acgcgcccgc tgatcctttg cgaatacgcc cacgcgatgg 60
gtaacagtct tggcgggttc gctaaatact ggcaggcggt tcgtcagtat ccccgtttac 120
aggggctgct gctgttgctg ctgctgagca tgggcgggac atgggcatcc aaggagccac 180
ttcggccacg gtgccg 196

<210> 64
<211> 420
<212> DNA
<213> Artificial Sequence

<220>
<223> trans-spliced product comprising cystic fibrosis
transmembrane regulator-derived sequences and His
tag sequence

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aacgttgctc gagtactaac tggaacctct tctttttttt cctgcagact tcacttctaa 120
tgatgattat gggagaactg gagccttcag agggtaaaat taagcacagt ggaagaattt 180
cattctgttc tcagttttcc tggattatgc ctggcaccat taaagaaaat atcatctttg 240

gcggccgcca ctgtgctgga tatctgcaga attccaccac actggactag tggatccgag 300
ctcgggtacca aggttaagtt taaaccgctg atcagcctcg actgtgcctt ctagttgcca 360
gccatctggt gtttgcccct ccccgctgcc ttccttgacc ctggaagggtg ccactccac 420

<210> 65
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Splice junction sequence

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<210> 66
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> C terminal residues from glutathione -S-
transferase

<400> 66
Asp Tyr Lys Asp Asp Asp Lys
1 5

<210> 67
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence comprising sequences derived
from Escherichia coli lacZ gene

<400> 67
ggagttgatc ccgtc 15

<210> 68
<211> 37
<212> DNA
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<220>
<223> Artificial sequence comprising sequences derived
from Escherichia coli lacZ gene

<400> 68
gcagtgtcct tgtgcgggta ccctgcaggg cggcttc

37

<210> 69
<211> 120
<212> DNA
<213> Artificial Sequence

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<223> Binding domain of PTM

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tattaactca ttgattcaa aatatttaaa atacttcctg tttcatactc tgctatgcac 120

<210> 70
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Spacer sequence of PTM

<400> 70
aacattatta taacgttgct cgaa

24

<210> 71
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Branch point, pyrimidine tract and acceptor splice
site of PTM

<400> 71
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47

<210> 72
<211> 70
<212> DNA
<213> Artificial Sequence

<220>
<223> Donor site and spacer sequence of PTM

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gatccaccgg

70

<210> 73

<211> 260

<212> DNA

<213> Artificial Sequence

<220>

<223> Binding domain of spacer sequence

<400> 73

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ctggaaaact gataacacaa tgaaattctt ccactgtgct taaaaaaacc ctcttgaatt 180
ctccatttct ccataatca tcattacaac tgaactctgg aaataaaacc catcattatt 240
aactcattat caaatcacgc                                     260
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<223> Oligonucleotide primer

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<210> 75

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<223> Oligonucleotide

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<210> 76

<211> 36

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<213> Artificial Sequence

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<223> Oligonucleotide

<400> 76

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<210> 77
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 <220>
 <223> Oligonucleotide primer

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 <210> 78
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 <220>
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 <400> 78
 ctagggttac cgaagtaaaa ccatacttat tag 33

 <210> 79
 <211> 35
 <212> DNA
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 <220>
 <223> Oligonucleotide primer

 <400> 79
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 <210> 80
 <211> 37
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide primer

 <400> 80
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 <210> 81
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>

<223> Binding domain of PTM molecule

<400> 81

accatcatt attaggtcat tat

23

<210> 82

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide primer

<400> 82

gatcaaattct gtcgatacctt cc

22

<210> 83

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide primer

<400> 83

ctgatccacc cagtcccatt a

21

<210> 84

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide primer

<400> 84

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22

<210> 85

<211> 52

<212> DNA

<213> Artificial Sequence

<220>

<223> Random sequence inserted to replace 3' splice site

<221> misc_feature

<222> (7)...(30)

<223> spacer sequence, see SEQ ID NO 70

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<210> 86
<211> 71
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 86
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tatgatgaaa a 71

<210> 87
<211> 66
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 87
tttggcgata cgccgaacga tcgccagttc tgtatgaacg gtctgggtctt tgccgaccgc 60
acgccg 66

<210> 88
<211> 192
<212> DNA
<213> Artificial Sequence

<220>
<223> PTM sequences

<400> 88
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tccggccgca tcagcttttg cagccaattc agttggatca tgcccggtac catcaaggag 120
aacataatct tcggcgctcag ttacgacgag taccgctatc gctcgggtgat taaggcctgt 180
cagttggagg ag 192

<210> 89
<211> 25
<212> DNA
<213> Artificial Sequence

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<223> Oligonucleotide

<400> 89

gagcaggcaa gacgagcttg ctcat 25

<210> 90

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide

<400> 90

gagaacataa tcttcggcgt cagttacg 28

<210> 91

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide

<400> 91

gtcagttgga ggaggacatc tccaagtttg 30

<210> 92

<211> 192

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide

<400> 92

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aacataatct tcggcgctcag ttacgacgag taccgctatc gctcgggtgat taaggcctgt 180
cagttggagg ag 192

<210> 93

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> PTM sequences

<400> 93

aaatatcatt ggtgttttctt atgatga 27

<210> 94

<211> 30
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 <223> Oligonucleotide

 <400> 94
 ccaactagaa gaggacatct ccaagtttgc 30

 <210> 95
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 <400> 95
 atgatcatgg gcgagttaga accaagtgag 30

 <210> 96
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 <400> 96
 aaaatatcat ctttggtggt tcctatg 27

 <210> 97
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 <220>
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 <400> 97
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 <210> 98
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 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> 5' splice site

<400> 98
cgtttacagg taagtggatc c 21

<210> 99
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> 3' splice site

<400> 99
ctgcagggcg gcttcgtcta ataatgg 27

<210> 100
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Sequence from trans-splicing domain

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<212> DNA
<213> Artificial Sequence

<220>
<223> CFTR PTM

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<211> 323

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<213> Artificial Sequence

<220>

<223> trans-splicing domain of CFTR PTM

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atcctggaaa	actgataaca	caatgaaatt	cttcactgtg	gcttaatttt	accctctgaa	240
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<210> 103

<211> 165

<212> DNA

<213> Artificial Sequence

<220>

<223> PTM binding domain

<400> 103

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<210> 104

<211> 225

<212> DNA

<213> Artificial Sequence

<220>

<223> trans-splicing domain of CFTR PTM

<400> 104

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aaatacttcc	tgtttcacct	actctgctat	gcacccgcgg	aacattatta	taacgttgct	180
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<212> DNA

<213> Artificial Sequence

<220>

<223> CFTR PTM sequence

<400> 105

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aatatcatct	ttggtgtttc	ctatgatgaa	tatagataca	gaagcgtcat	caaagcatgc	180
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